

## SECTION F

### INDEX TO VOLUME 28

#### Authors

- Adams, A. M.**—A comparative study of ascospore formation by 43 yeast cultures, 413.
- Allan, A. B.**—See King, R. O.
- Allman, A. H.**—See Lemon, H. W.
- Anderson, J. A.**—See Levi, I.
- Arnell, J. C.** and Henneberry, G. O.—Leveeling bulb control for null manometers, 361.
- Baerg, A., Klassen, J., and Gishler, P. E.**—Heat transfer in a fluidized solids bed, 287.
- Barnard, K. N.**—Use of magnesium alloy anodes in ship protection, 417.
- Barrington, M. G., Fleet, D. E., and McLaughlin, R. R.**—The water repellency of silicone-treated sintered glass plates, 461.
- Barton, G. M.**—See Clark, R. H.
- Bayley, C. H.**—See Weatherburn, A. S.
- Benson, B. and Larose, P.**—The effect of sodium sulphate on the absorption of acid dyes by wool, 238.
- Black, S. A.**—See Mooney, M.
- Brown, H. J. and Gibbons, N. E.**—Enterococci as an index to fecal contamination in egg products, 107.
- Clark, R. H., MacLean, H., Henderson, N., Barton, G. M., Johnson, A. L., Grunland, J. T., and Reynolds, W. L.**—The emulsion polymerization of isoprene, 351.
- Clendenning, K. A. and Wright, D. E.**—Separation of starch and gluten. V. Problems in wheat starch manufacture arising from flour pentosans, 390.
- Davies, J. M.**—See Loughborough, D. L.
- Dick, J. and Pugsley, L. I.**—The arsenic, lead, tin, copper, and iron content of canned clams, oysters, crabs, lobsters, and shrimps, 199.
- Durand, E. J.**—See King, R. O.
- Ellis, O. W.**—See Kuhn, W. E.
- Fleet, D. E.**—See Barrington, M. G.
- Gibbons, N. E.**—Preservation of eggs. VII. Effect of age of egg and carbon dioxide content at time of oiling on keeping quality, 118.
- 
- and Rose, D.—Effect of *ante-mortem* treatment of pigs on the quality of Wiltshire bacon, 438.  
See Brown, H. J.; Rose, D.
- Gishler, P. E.**—See Baerg, A.; Peterson, W. S.
- Grace, N. H., Lips, H. J., and Zuckerman, A.**—Canadian erucic acid oils. V. Physical, chemical, and edible properties of oil from weed seed screenings, 401.
- Grunland, J. T.**—See Clark, R. H.

**Ham, M. P.** and Smith, M. D.—Fluoride studies related to the human diet, 227.

**Henderson, N.**—See Clark, R. H.

**Henneberry, G. O.**—See Arnell, J. C.

**Johnson, A. L.**—See Clark, R. H.

**King, R. O.**, Durand, E. J., and Allan, A. B.—The oxidation, decomposition, ignition, and detonation of fuel vapors and gases. XV. The concentration of finely divided carbon in town gas-air mixtures required to induce severe knocking combustion, 177. XVI. Benzene as a knocking fuel in conditions promoting the formation of finely divided carbon, 308.

\_\_\_\_\_, \_\_\_\_\_, Wood, B. D., and Allan, A. B.—The oxidation, ignition, and detonation of fuel vapors and gases. XIII. The 12:1 compression ratio performance of the C.F.R. spark ignition engine using town gas; comparison with Diesel engines, 134. XIV. The cause of the effect of hydrogen sulphide to reduce the compression ratios at which fuel gases can be used in spark ignition engines, 166.

**Klassen, J.**—See Baerg, A.

**Knapp, R. M.**—See Lemon, H. W.

**Kuhn, W. E.** and Ellis, O. W.—A horizontal high vacuum electrical resistance furnace, 1.

**Larose, P.**—See Benson, B.

**Lemon, H. W.**, Knapp, R. M., and Allman, A. H.—The effect of citric acid upon the oxidation of peanut oil and of the methyl esters derived from peanut oil, 453.

**Levi, I.** and Anderson, J. A.—Variations in protein contents of plants, heads, spikelets, and individual kernels of wheat, 71.

**Lips, H. J.**—Antioxidant properties of an ethylene dichloride extract of cottonseed meal, 451. Further studies on Canadian lard. Phosphorus content, color, and stability, 21.

\_\_\_\_\_, and McFarlane, W. D.—Evaluation of antioxidant activity by stabilization of vitamin A and carotene, 157.  
See Grace, N. H.

**Lipeatt, F.**—The measurement of the heat output from radiant heating panels on a laboratory scale, 257.

**Loughborough, D. L.**, Davies, J. M., and Monfore, G. E.—The measurements of strains in tires, 490.

**Lusena, C. V.**—Humin formation during wheat gluten hydrolysis, 234.

**MacDougall, D.** and Roadhouse, F. E.—A modified brucine method for the determination of nitrate, 280.

**McFarlane, W. D.**—See Lips, H. J.

**McLaughlin, R. R.**—See Barrington, M. G.

**MacLean, H.**—See Clark, R. H.

**Marshall, H. B.**—See Sitch, D. A.

**Middleton, W. E. K.**—The curve computer, 324.

**Miles, B. J.**—See Robinson, A. D.

**Monfore, G. E.**—See Loughborough, D. L.

- Mooney, M.** and Black, S. A.—Elongation hysteresis of *Hevea* and synthetic elastomers, 83.
- Murphy, D.**—A note on the fate of betaine hydrochloride in media used for the production of 2,3-butanediol by strains of *Bacillus polymyxa*, 502.
- Newbould, F. H. S.**—A simple spinner for roll tubes used in estimating bacterial populations, 464.
- Peterson, W. S.** and Gishler, P. E.—A small fluidized solids pilot plant for the direct distillation of oil from Alberta bituminous sands, 62.
- Pfalzner, P. M.**—On the friction of various synthetic and natural rubbers on ice, 468.
- Potts, B. R.**—Polarographic determination of titanium in paint pigments, 128.
- Pugsley, L. I.**—See Dick, J.
- Reynolds, W. L.**—See Clark, R. H.
- Roadhouse, F. E.**—See MacDougall, D.
- Robinson, A. D.**, Tobias, C. H., and Miles, B. J.—The thiamine and riboflavin content of Manitoba grown wheat, oats, and barley of the 1947 crop, 341.
- Rose, D.** and Gibbons, N. E.—The effect of oiling and air cell mold on the oxygen and carbon dioxide contents of the air cells of eggs, 101.  
See Gibbons, N. E.
- Rose, G. R. F.**—See Weatherburn, A. S.
- Rose, R. C.**—Extraction, fractionation, and evaluation of carrageenin, 202.
- Sitch, D. A.** and Marshall, H. B.—The effect of hemicelluloses on the papermaking properties of white birch, 376.
- Smith, M. D.**—See Ham, M. P.
- Stedman, D. F.**—Stress-strain curves for fatigued rubber, 31.
- Tait, G. M. C.**—Flowmeter error in measuring pulsating flow, 333.
- Tobias, C. H.**—See Robinson, A. D.
- Weatherburn, A. S.**, Rose, G. R. F., and Bayley, C. H.—The sorption of soap by textile fibers, 51. The suspending power of detergent solutions. I. Pure soaps, 213. II. Soap-builder solutions, 363.
- Webb, E. L. R.**—A remote control projector for the examination of experimental records on 35 mm. film, 315.
- Wood, B. D.**—See King, R. O.
- Wright, D. E.**—See Clendening, K. A.
- Ziel, A. van der.**—Noise suppression in triode amplifiers, 189.
- Zuckerman, A.**—See Grace, N. H.

SECTION F

INDEX TO VOLUME 28

Subjects

- Absorption** of acid dyes by wool, Effect of sodium sulphate on, 238.
- Acid dyes**, Absorption of, by wool, Effect of sodium sulphate on, 238.
- Air-town gas mixtures**, as fuel in spark ignition engines, Effect of carbon on, See Fuel vapors and gases.
- Air cell mold**, Effect of oiling and, on oxygen and carbon dioxide contents of air cells of eggs, 101.
- Air cells of eggs**, Effect of oiling and air cell mold on oxygen and carbon dioxide contents of, 101.
- Alberta bituminous sands**, A small fluidized solids pilot plant for direct distillation of oil from, 62.
- Alloys**, See Magnesium alloy anodes.
- Amplifiers**, See Triode Amplifiers.
- Anodes**, Magnesium alloy, Use of, in ship protection, 417.
- Ante-mortem treatment** of pigs, Effect of, on quality of Wiltshire bacon, 438.
- Antioxidant activity**, Evaluation of, by stabilization of vitamin A and carotene, 157.
- Antioxidant properties** of an ethylene dichloride extract of cottonseed meal, 451.
- Arsenic**, lead, tin, copper, and iron content of canned clams, oysters, crabs, lobsters, and shrimps, 199.
- Acospore formation** by 43 yeast cultures, Comparative study of, 413.
- Bacillus polymyxa**, Fate of betaine hydrochloride in media used for production of 2,3-butanediol by strains of *Bacillus polymyxa*, 502.
- Bacon**, See Wiltshire bacon.
- Bacterial populations**, A simple spinner for roll tubes used in estimation of, 464.
- Barley**, oats, and wheat, Manitoba grown, 1947 crop, Thiamine and riboflavin content of, 341.
- Benzene** as a knocking fuel in spark ignition engines, See under Fuel vapors and gases.
- Betaine hydrochloride**, Fate of, in media used for the production of 2,3-butanediol by strains of *Bacillus polymyxa*, 502.
- Birch**, Papermaking properties of, Effect of hemicelluloses on, 376.
- Bituminous sands**, See Alberta bituminous sands.
- Brucine** method for determination of nitrate, Modified, 280.
- 2,3-Butanediol**, Fate of betaine hydrochloride in media used for production of, by strains of *Bacillus polymyxa*, 502.
- Canadian erucic acid oils**, See Erucic acid oils.
- Carbon**, Effect of, in fuels for spark ignition engines, See under Fuel vapors and gases.
- Carbon dioxide** and oxygen contents of air cells of eggs, Effect of oiling and air cell mold on, 101. content of egg at time of oiling, Effect of age of egg and, on keeping quality, 118.
- Carotene**, Evaluation of antioxidant activity by stabilization of vitamin A and, 157.
- Carrageenin**, Extraction, fractionation, and evaluation of, 202.
- Cell mold**, See Air cell mold.
- Cells**, See Air cells of eggs.
- C.F.R. spark ignition engine**, The 12:1 compression ratio performance of, using town gas: comparison with Diesel engines, 134. See also Fuel vapors and gases.
- Clams**, Arsenic, lead, tin, copper, and iron content of canned oysters, crabs, lobsters, shrimps, and, 199.
- Color**, phosphorus content, and stability of Canadian lard, 21.
- Combustion**, See Knocking combustion, under Fuel vapors and gases.

**Compression ratios**

(12:1) performance of the C.F.R. spark ignition engine using town gas; comparison with Diesel engines, 134. at which fuel gas can be used in spark ignition engines, The cause of the effect of hydrogen sulphide to reduce, 166.

**Computer**, See Curve computer.

**Contamination**, See Fecal contamination.

**Copper**, iron, arsenic, lead, and tin content of canned clams, oysters, crabs, lobsters, and shrimps, 199.

**Cottonseed meal**, Antioxidant properties of an ethylene dichloride extract of, 451.

**Crabs**, Arsenic, lead, tin, copper, and iron content of canned clams, oysters, lobsters, shrimps, and, 199.

**Cultures**, See Yeast cultures.

**Curve computer**, 324.

**Curves**, Stress-strain, for fatigued rubber, 31.

**Detergent solutions**, Suspending power of, 213, 363.

**Detonation**, See under Fuel vapors and gases.

**Diesel engines**, The 12:1 compression ratio performance of the C.F.R. spark ignition engine using town gas; comparison with, 134.

**Diet**, Human, Fluoride studies related to the, 227.

**Distillation**, Direct, of oil from Alberta bituminous sands, A small fluidized solids pilot plant for, 62.

**Dyes**, See Acid dyes.

**Egg products**

Enterococci as an index of fecal contamination in, 107. See also Eggs.

**Eggs**

Effect of oiling and air cell mold on the oxygen and carbon dioxide contents of air cells of, 101.

Preservation of,

VII. Effect of age of egg and carbon dioxide content at time of oiling on keeping quality, 118.

See also Egg products.

**Elastomers, Synthetic**, and *Hevea*, Elongation hysteresis of, 83.

**Electrical resistance furnace**, A horizontal high vacuum, 1.

**Elongation hysteresis** of *Hevea* and synthetic elastomers, 83.

**Emulsion polymerization** of isoprene, 351.

**Engines**, Internal combustion, Fuel tests with, See under Fuel vapors and gases.

**Enterococci** as an index of fecal contamination in egg products, 107.

**Erucic acid oils, Canadian**

V. Physical, chemical, and edible properties of oil from weed seed screenings, 401.

**Ethylene dichloride** extract of cottonseed meal, Antioxidant properties of, 451.

**Evaluation of carrageenin**, Extraction, fractionation, and, 202.

**Extraction**, fractionation, and evaluation of carrageenin, 202.

**Fatigued rubber**, Stress-strain curves for, 31.

**Fecal contamination**, in egg products, Enterococci as an index of, 107.

**Film**, 35 mm., A remote control projector for the examination of experimental records on, 315.

**Flour pentosans**, Problems in wheat starch manufacture arising from, 390.

**Flow**, Pulsating, Flowmeter error in measuring, 333.

**Flowmeters**, Error in measuring pulsating flow, 333.

**Fluidized solids bed**, Heat transfer in, 287.

**Fluidized solids pilot plant** for direct distillation of oil from Alberta bituminous sands, Small, 62.

**Fluorides**, Studies of, related to the human diet, 227.

**Fractionation** and evaluation of carrageenin, Extraction and, 202.

**Friction** of various synthetic and natural rubbers on ice, 468.

**Fuel vapors and gases**, Oxidation, ignition, and detonation of, XIII. The 12:1 compression ratio performance of the C.F.R. spark ignition engine using town gas; comparison with Diesel engines, 134.

XIV. The cause of the effect of hydrogen sulphide to reduce the compression ratios at which fuel gases can be used in spark ignition engines, 166.

- XV. The concentration of finely divided carbon in town gas - air mixtures required to reduce severe knocking combustion, 177.
- XVI. Benzene as a knocking fuel in conditions promoting the formation of finely divided carbon, 308.
- Furnace**, A horizontal high vacuum electrical resistance, 1.
- Gas-air mixtures** as fuel in internal combustion engines, See under Fuel vapors and gases.
- Gases**, See Fuel vapors and gases.
- Glass plates**, See Sintered glass plates.
- Gluten**  
and starch, Separation of, 390.  
See also Wheat gluten.
- Heads**, spikelets, and individual kernels of wheat, Variations in protein contents of plants, 71.
- Heat** output from radiant heating panels on a laboratory scale, Measurement of, 257.
- Heating panels**, See Radiant heating panels.
- Heat transfer** in a fluidized solids bed, 287.
- Hemicelluloses**, Effect of, on papermaking properties of white birch, 376.
- Hevea** and synthetic elastomers Elongation hysteresis of, 83.
- High vacuum electrical resistance furnace**, A horizontal, 1.
- Horizontal high vacuum electrical resistance furnace**, A, 1.
- Human diet**, Fluoride studies related to, 227.
- Humin** formation during wheat gluten hydrolysis, 234.
- Hydrogen sulphide**, The cause of the effect of, to reduce the compression ratios at which fuel gases can be used in spark ignition engines, 166.
- Hydrolysis** of wheat gluten, Humin formation during, 234.
- Hysteresis**, Elongation, of *Hevea* and synthetic elastomers, 83.
- Ice**, Friction of synthetic and natural rubbers on, 468.
- Ignition**, See under Fuel vapors and gases.
- Ignition engines, Spark**, Fuel tests with, See under Fuel vapors and gases.
- Iron, Arsenic, lead, tin, and copper content** of canned clams, oysters, crabs, lobsters, and shrimps, 199.
- Isoprene**, Emulsion polymerization of, 351.
- Keeping quality** of egg, Effect of age of egg and carbon dioxide content at time of oiling on, 118.
- Kernels**, of wheat, Variations in protein contents of plants, heads, spikelets, and individual, 71.
- Knocking combustion** in spark ignition engines, See under Fuel vapors and gases.
- Knocking fuels**, See Benzene under Fuel vapors and gases.
- Lard**, Canadian, Phosphorus content, color, and stability of, 21.
- Lead, tin, copper, iron, and arsenic content** of canned clams, oysters, crabs, lobsters, and shrimps, 199.
- Leveling bulb control** for null manometers, 361.
- Lobsters**, Arsenic, lead, tin, copper, and iron content of canned clams, oysters, crabs, shrimps, and, 199.
- Magnesium alloy anodes**, Use of, in ship protection, 417.
- Manitoba grown wheat, oats, and barley**, 1947 crop, Thiamine and riboflavin content of, 341.
- Manometers, Null, Leveling bulb for**, 361.
- Meal**, See Cottonseed meal.
- Media** used for production of 2,3-butanediol by strains of *Bacillus polymyxa*, Fate of betaine hydrochloride in, 502.
- Methyl esters** derived from peanut oil, Effect of citric acid on the oxidation of peanut oil and, 453.
- Molds**, See Air cell mold.
- Nitrate**, Modified brucine method for determination of, 280.
- Noise suppression** in triode amplifiers, 189.
- Null manometers**, Leveling bulb for, 361.
- Oats, barley, and wheat, Manitoba grown, 1947 crop**, Thiamine and riboflavin content of, 341.

**Oiling of eggs**

Effect of, and of air cell mold, on the oxygen and carbon dioxide contents of the air cells of eggs, 101.  
Effect of age of egg and carbon dioxide content at time of, on keeping quality, 118.

**Oils**

from Alberta bituminous sands, A small fluidized solids pilot plant for direct distillation of, 62.  
See also Erucic acid oils, Oiling of eggs; Peanut oil.

**Oxidation**

of peanut oil and of the methyl esters derived from peanut oil, Effect of citric acid on, 453.  
See also under Fuel vapors and gases.

**Oxygen** and carbon dioxide contents of air cells of eggs, Effect of oiling and air cell mold on, 101.

**Oysters**, Arsenic, lead, tin, copper, and iron content of canned clams, crabs, lobsters, shrimps, and, 199.

**Paint pigments**, Polarography of titanium in, 128.

**Panels**, See Radiant heating panels.

**Papermaking properties** of white birch, Effect of hemicelluloses on, 376.

**Peanut oil** and methyl esters derived from peanut oil, Effect of citric acid on the oxidation of, 453.

**Pentosans**, See Flour pentosans.

**Phosphorus content**, color, and stability of Canadian lard, 21.

**Pigments**, See Paint pigments.

**Pigs**, Effect of ante-mortem treatment of, on quality of Wiltshire bacon, 438.

**Pilot plant**, Small fluidized solids, for direct distillation of oil from Alberta bituminous sands, 62.

**Plant**, See Pilot plant.

**Plants**, heads, spikelets, and individual kernels of wheat, Variations in protein contents of, 71.

**Plates**, See Sintered glass plates.

**Polarography** of titanium in paint pigments, 128.

**Polymerization**, See Emulsion polymerization.

**Populations**, See Bacterial populations.

**Projector**, Remote control, for the examination of experimental records on 35 mm. film, 315.

**Protection** of ships, Use of magnesium alloy anodes in, 417.

**Protein contents** of plants, heads, spikelets, and individual kernels of wheat, Variations in, 71.

**Pulsating flow**, Flowmeter error in measuring, 333.

**Quality** of Wiltshire bacon, Effect of ante-mortem treatment of pigs on the, 438.

**Radiant heating panels**, Measurement of heat output from, on a laboratory scale, 257.

**Remote control projector** for the examination of experimental records on 35 mm. film, 315.

**Resistance furnace**, A horizontal high vacuum electrical, 1.

**Riboflavin** and thiamine content of Manitoba grown wheat, oats, and barley of 1947 crop, 341.

**Roll tubes** used in estimation of bacterial populations, A simple spinner for, 464.

**Rubber**

Fatigued, Stress-strain curves for, 31.  
Synthetic and natural, Friction of, on ice, 468.  
tires, Measurement of strains in, 490.

**Sands**, See Alberta bituminous sands.

**Screenings**, See Weed seed screenings.

**Ship protection**, Use of magnesium alloy anodes in, 417.

**Shrimps**, Arsenic, lead, tin, copper, and iron content of canned clams, oysters, crabs, lobsters, and, 199.

**Silicone**, Water-repellency of sintered glass plates treated with, 461.

**Sintered glass plates**, Water-repellency of silicone-treated, 461.

**Soap**

Pure, and soap-builder solutions, Suspending power of, 203, 363.  
Sorption of, by textile fibers, 51.

**Sodium sulphate**, Effect of, on absorption of acid dyes by wool, 238.

- Solids, Fluidized**, Pilot plant, small, for direct distillation of oil from Alberta bituminous sands, 62.
- Sorption** of soap by textile fibers, 51.
- Spark ignition engines**  
Benzene as a knocking fuel in conditions promoting formation of finely divided carbon in, 308.  
The cause of the effect of hydrogen sulphide to reduce the compression ratios at which fuel gases can be used in, 166.  
See C.F.R. spark ignition engine.
- Spikelets**, and individual kernels of wheat, Variations in protein contents of plants, heads, 71.
- Spinner** for roll tubes used in estimating bacterial populations, A simple, 464.
- Stability**, phosphorus content, and color of Canadian lard, 21.
- Stabilization** of vitamin A and carotene, Evaluation of antioxidant activity by, 157.
- Starch** and gluten, Separation of, V. Problems in wheat starch manufacture arising from flour pentosans, 390.
- Strain**  
in tires, Measurements of, 490.  
—stress curves for fatigued rubber, 31.
- Stress-strain curves** for fatigued rubber, 31.
- Suspending power** of detergent solutions.  
I. Pure soaps, 213.  
II. Soap-builder solutions, 363.
- Synthetic elastomers**, See Elastomers, Synthetic.
- Textile fibers**, Sorption of soap by, 51.
- Thiamine** and riboflavin content of Manitoba grown wheat, oats, and barley of 1947 crop, 341.
- Tin**, copper, iron, arsenic, and lead content of canned clams, oysters, crabs, lobsters and shrimps, 199.
- Tires**, Measurements of strains in, 490.
- Titanium** in paint pigments, Polarography of, 128.
- Town gas**  
The 12:1 compression ratio performance of the C.F.R. spark ignition engine using, and comparison with Diesel engines, 134.—air mixtures, The concentration of finely divided carbon in, required to induce severe knocking combustion in spark ignition engines, 177.
- Triode amplifiers**, Noise suppression in, 189.
- Tubes**, See Roll tubes.
- Vacuum electrical resistance furnace**, A horizontal high, 1.
- Vapors**, See Fuel vapors and gases.
- Vitamin A** and carotene, Evaluation of antioxidant activity by stabilization of, 157.
- Water-repellency** of silicone-treated sintered glass plates, 461.
- Weed seed screenings**, Physical, chemical, and edible properties of oil from, 401.
- Wheat**  
oats and barley, Manitoba grown, 1947 crop, Thiamine and riboflavin content of, 341.  
Variations in protein contents of plants, heads, spikelets, and individual kernels of 71.
- Wheat gluten hydrolysis**, Humin formation during, 227.
- Wheat starch manufacture**, Problems arising from flour pentosans, 390.
- White birch**, Papermaking properties of, Effect of hemicelluloses on, 376.
- Wiltshire bacon**, Effect of ante-mortem treatment of pigs on quality of, 438.
- Yeast cultures**, Comparative study of ascospore formation by, 413.

1  
s  
i,  
n  
of